

but some sixteen months ago Dr. F. Leydig of Bonn published an excellent account of it in *Wiegmann's Archiv*, in which he gives a short account of Dr. Joseph Waltl, who first discovered *Pleurodeles*, and of the gallant Dr. Michahelles, who called it after his friend, its discoverer (1830). Among the specimens sent to Bonn, one was living, and in it could be easily seen the tips of some of the ribs sticking through the skin; and that "this penetration" of the skin of the sides was not in the first instance caused by or through the transport, the accompanying note from the kind sender proved. "You will remark that in the *Pleurodeles* the ribs

pierce the integuments, and that if this be an accident, it is in some sort a physiological one." The habits of the *Pleurodeles* seem to be more or less like that of our native Tritons. During the procreative season they remain upright in the water; later they leave it and hide themselves in damp places under stones. Like the Water Newts, they possess a sort of cry; when frightened, as on being suddenly seized, they emit a low, short, almost squeaking sound, generally repeated several times. This seemed to come not so much from the throat as to be caused by a rapid expulsion of air through the openings of the nose—in fact, to be a sort of snort.

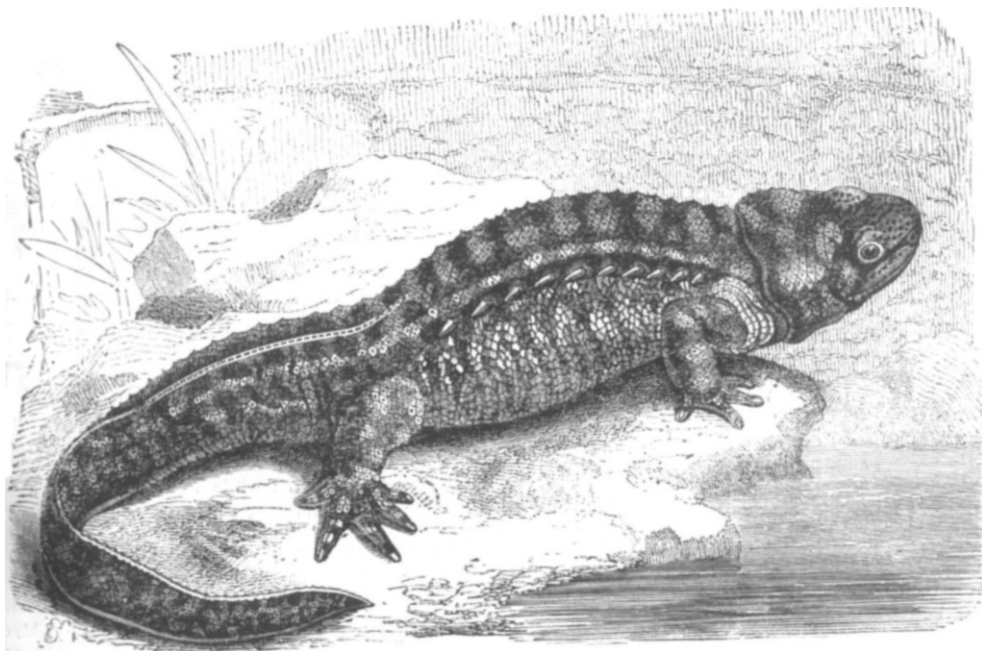


FIG. 2.—*Pleurodeles Waltii*

It had a tendency to crawl vigorously backward when uneasy, by prising the ends of the ribs against the skin: this snake-like progression no doubt causing the skin openings. Prof. Leydig's specimen lived on slugs of small size, which it took eagerly as well as worms, indeed preferring these latter. The skin surface was rather dry than clammy. The colour changes through the chromatophores were clearly to be noticed; during cold weather it was of a tolerably uniform dark, when warmer the colour became lighter, numerous dark spots standing out from a light gray ground colour. On very warm days it would lie for hours motionless on the surface of the water.

It would almost seem worth one's while to pay a visit to those Andalusian tanks, and by their semi-limpid sides and under the shelter of their surrounding fig and olive-trees work out the complete history of this interesting little form.

These woodcuts will show that in point of illustration this volume keeps up with both its predecessors in effect; while we have gently hinted at a few blemishes, the work deserves a very considerable mead of praise, and we heartily recommend it as an excellent volume to be placed in the hands of all interested in the animal kingdom.

### NOTES

THE *Akhbar* published a programme of the excursions which have been arranged for the next session of the French Association at Algiers on April 14. The excursions are very numerous, and are classified according to the length of time required for their completion. One of the most attractive in the vicinity of Algiers is the tomb of the Kings of Mauritania; Laghouat and the desert is one of the most protracted, and requires eight days for its completion. The travellers will enjoy unexampled facilities for visiting the country. The seat of the French Association is 76, rue de Rennes, Paris. Applications are to be made to M. Gariel, Professor of Physics to the Ecole de Médecine, permanent secretary. A reduction of 50 per cent. has been granted by the railway companies; the arrangements made for the sea passage will be published in proper time. An influential

local committee has been established in Algiers. M. Chauveau, Professor to the Veterinary School of Lyons, has been appointed president of the session; the vice-president is M. Janssen.

MINERALOGICAL science has suffered a great loss by the early death, on January 27, of Prof. Dr. Emanuel Boricky, who was well known by his microscopical researches in petrography. Boricky was born at Milin, near Příbram (Bohemia) in the year 1840, and he had therefore just completed his fortieth year. In 1865 he became an assistant of the mineralogical section of the Bohemian Museum, and in 1866 he was named Assistant Professor of Mineralogy at the University of Prague. Having attained the degree of a Doctor of Philosophy, he became a teacher of mineralogy at one of the colleges of Prague in 1868, and in 1869 he was promoted to the post of a custos of the mineralogical collections at the museum. Since 1871 he has

lectured in the Bohemian language on petrography at the University of Prague. He was a diligent and successful worker in science, and his microscopical researches have made his name familiar to mineralogists far beyond the boundaries of his native country. He has left a monograph on the porphyries ready for printing. Science has lost in him a devoted student, and the Bohemian nation regrets the death of one of its best sons.

THE *Times* announces the death of Mr. William White, a well-known chemist and mining authority. Mr. White was the author of numerous works, including the "History of Chemistry," "Economy of Health," "Chemistry of Vegetation," "Chemistry for Students," "Hints from a Chemist," "Mineral Resources of Newfoundland," &c., and was for over half a century a constant contributor to scientific literature. He had held at different periods lectureships on metallurgy and chemistry at various educational establishments, and had earned for himself a reputation as a lecturer and writer on agricultural chemistry. He died in London on Sunday last, at the age of seventy-one, from a painful disease contracted while conducting experiments in his laboratory.

THE Prussian Government, according to Berlin papers, intends to purchase the Godeffroy Museum at Hamburg for the Berlin Anthropological Museum. The former is one of the most interesting zoological and anthropological collections, particularly with regard to Eastern Asia and the islands of the Pacific; it was formed by the Hamburg firm of that name by means of special scientific expeditions during the last decades.

THE Senatus of Glasgow University has just been presented with a portrait of the Very Rev. Principal Caird, the esteemed head of the University, and Mrs. Caird with a replica. The portraits are the gift of subscribers belonging to all religious and political parties, and are the works of Mr. Millais, R.A. The Principal is represented in academic dress, and the likeness is very striking. The portrait presented to the Senatus will be placed in the University library, the walls of which are already adorned with likenesses of former principals and professors.

M. MARIETTE, better known as Mariette Bey, the celebrated Egyptologist, has died in Alexandria. M. Maspero, his pupil, Professor of Egyptology to the Collège de France in Paris, has been appointed by the Egyptian Government to fill the place vacated by the death of M. Mariette.

A PROPOSITION has been made by the *Operator* and other electrical papers of the United States to open at New York an international exhibition of electricity in 1882. It is stated that the United States Congress will vote a sum of money to subsidise the American exhibitors at the exhibition of this year in Paris.

THE Royal Commission appointed in 1879 to inquire into the cause of accidents in mines have concluded the taking of evidence. The attention of the Commission is now directed to a series of experiments as to the explosive nature of coal dust, as to the best kind of safety lamp, and as to other matters designed to elucidate the causes of explosions. It is proposed that some experiments shall take place to test the efficacy of the electric light as an illuminating power in mines.

THE Committee formed for the exploration of the remarkable holes, which have recently appeared on the surface of Blackheath, have been negotiating with an experienced well-sinker, and intend to commence active operations in the course of a few days in the hope of finding a clue to their origin. Contributions in aid of the work, from persons interested in the investigation, will be gladly received by the honorary treasurers of the Committee—Dr. Prior Purvis, Landstown Place, Blackheath, or Mr. E. W. Brabrook, F.S.A., director of the Anthropological Institute, 28, Abingdon Street, Westminster.

ORDINARY MEETINGS of the Sanitary Institute of Great Britain, 9, Conduit Street, W., for the reading of papers and discussion upon sanitary matters, will be held during 1881 on the second Wednesday in the months of February, April, and June, chair to be taken at eight o'clock precisely. At the first meeting, February 9, a paper will be read by W. H. Michael, Q.C., upon "The Law in Relation to Sanitary Progress," to be followed by a discussion.

AN earthquake was felt over a considerable area of Switzerland on January 27. It was felt with varying degrees of intensity at Berne, Muensingen, Thun, Basle, Solothurn, Zurich, Bienne, Oberhofen, and Aarberg. The principal shock occurred at 2.20 in the afternoon, Berne mean time. A slight shock was observed at three o'clock the same day, and another equally slight at six the following Friday morning. According to a report of the Berne Observatory the first and principal shock was in the direction from east to west, with a slight northerly deviation. The oscillation was both vertical and lateral, and according to some accounts, was preceded by a rumbling subterranean sound. Its intensity may be judged from the facts that the chimes in the church clocks were made to strike and the bells to toll, books were thrown from their shelves, and pictures detached from the walls, while in Berne alone more than 100 chimneys were thrown down. This is the twenty-fourth earthquake that has been recorded in Switzerland since November, 1879, and is probably the most severe.

A SHOCK of an earthquake was felt at 5 p.m. on January 24 at Bologna, Florence, Venice, Padua, Ferrara, &c. At Bologna there were also slighter shocks at midnight, and at 8 and 9.15 a.m. next day; while Florence likewise had a second shock at 7.53 a.m. on the 25th.

IN a recent number of the *Journal de Physique*, of which the late M. d'Almeida was so long the editor, the following interesting episode is narrated:—During the investment and siege of Paris by the German armies in the winter of 1870-71 M. d'Almeida took a prominent part in certain attempts to re-establish telegraphic communication between Paris and the provinces, using the River Seine as a conductor. This suggestion originated with M. Bourbouze (of galvanometer fame), who was, after the war, created a chevalier for his suggestion. It was proposed to send powerful currents into the River Seine from batteries at the nearest available point outside the German lines, and to receive in Paris, by delicate galvanometers, from the river such a portion of these currents as might not have leaked into the earth. After some preliminary experiments had been made between the Hôtel de Ville and the manufactory of M. Claparede at St. Denis, by Professors Desains, Jamin, and Berthelot, it was decided to make the attempt, and accordingly on December 17, 1870, M. d'Almeida was despatched by balloon to the provinces in order to try to establish this novel mode of telegraphy without wires. The balloon descended after sundry perils in the Arcadian solitudes of Champagne outside the Prussian lines. Thence he proceeded *via* Lyons and Bordeaux to Havre. Not finding suitable appliances and apparatus, there was again a delay in sending to England for the necessities, which on arrival were conveyed to Poissy, where M. d'Almeida regained the banks of the Seine on January 14, 1871. Here however the frost proved inimical, the river having been frozen hard since the beginning of December. The attempts at communication were however to have been made on January 24, when the armistice was proclaimed. It was too late; and the world missed a famous scientific exploit from amongst those which made the siege of Paris notable beyond all other sieges of history.

M. JULES FERRY, French Minister of Public Instruction, and M. Tirard, Minister of Agriculture and Commerce, paid an

official visit the other day to the schools of apprenticeship established at the expense of the City of Paris in the rue Herold and the boulevard of La Villette. The time required for the scientific education of the young workmen is three years. During the first year the pupils are trained in working wood as well as iron. The choice of the speciality is only made at the beginning of the second year. No work is executed without a drawing having been made, so that the workman is enabled to understand the use of the object he is manufacturing. Regular courses of lectures are given in the establishment on scientific subjects. Meanwhile experiments are conducted in three different primary schools, to determine whether it is possible to join manual to mental training in all the city schools.

PROF. HULL has published a fourth edition of his "Coal-Fields of Great Britain" (Stanford). This edition has been largely rewritten, and contains an entirely new chapter on Carboniferous Plants, by Prof. Williamson, F.R.S. The Classification of the Carboniferous Series of Beds has been modified in accordance with the views enunciated in Prof. Hull's paper on this subject read before the Geological Society in 1877. Various other modifications have been made in accordance with the results of recent geological research, and the statistical portions have been brought down to 1878.

MESSRS. LONGMANS AND CO. send us the fourth edition of Prof. Atkinson's "Natural Philosophy for General Readers and Young Persons," translated and edited from Ganot's French work. To this edition have been added twenty-five pages of new matter and sixteen additional illustrations.

MR. E. S. BAKER, photographer of Bristol, sends us a photograph of a jar, which is a fine illustration of the fact that water expands on freezing. During the recent frost the water in the jar froze, and the ice is seen protruding from its mouth to a considerable distance like a well-shaped cork.

MR. C. V. RILEY of 1700, Thirteenth Street, Washington, writes to us that, having been obliged to cease the publication of the *American Entomologist*, he has a few full sets of vol. iii., just closed, to dispose of, and has concluded to send the full volume to all former subscribers who may want it, or to any Library, Natural History Association, or editor of journal, postage prepaid, at the reduced price of \$1.50. The information in the magazine, Mr. Riley states, is of permanent interest, and the volume will be of value to any one interested in entomology in any of its bearings.

M. CH. JOLY has republished as a pamphlet a paper which he lately contributed to the *Journal* of the National Horticultural Society of France, under the title of "Note sur une Exposition de Géographie botanique et horticole, organisée par la Société Centrale d'Horticulture de Nancy."

NEW SOUTH WALES, Victoria, and South Australia have agreed to jointly bear the expense of exterminating the *Phylloxera vastatrix*, the alarming extension of which in Victoria has threatened the destruction of the wine industry.

WE have received the three first numbers for this year of the *Chicago Field*, which seems modelled on a small scale after its well-known English contemporary.

THE *Revue Scientifique* of January 29 contains a lecture recently given at the Sorbonne by M. Faye, on the Volcanoes of the Moon.

AT Cracow a new Polish review for literature, science, and art is now being published fortnightly. Its title is *Museum*, and its editor Dr. Thaddaeus Rutowski.

THE works in the Arlberg tunnel are progressing. On the Tyrolese side the lower shaft has been pushed to a distance of

340 metres, by help of the boring machines, and in spite of the hardness of the rock the daily progress is two metres. The upper shaft is some 100 metres behind.

A NUMBER of Roman antiquities were found last year during some military earthwork operations near Metz, close to the Lunette d'Arçon. It appears that the place was one of the most important burial-places of Roman Metz. The Metz Geological and Archæological Society gave the details at its last December meeting. Some thirty-five vases, four metal objects, three coins, and two tombstones with inscriptions are mentioned. Of human remains four skulls were found, one of which was lying upon a square stone plate, besides carbonised (cremated?) bone remains in a round stone urn. The inscriptions were epitaphs; of the three coins, one dated from the year 41 (when Claudius commenced to reign), another from the year 160 (reign of Antoninus Pius). Prof. Schaaffhausen of Bonn states that three of the skulls found belong to three different tribes. One belonged to a German, another to a Frisian, the owner of the third came from so far a country as Lapland.

A REMARKABLE discovery of Russo-byzantine antiquities was made near Kiev some weeks ago, when a canal for the water-works of the city was being excavated. They consist principally of twenty gold and enamelled locketts, three buttons of the same materials with heads of saints upon them, gold rings, agraffes and studs, all dating from the fifteenth or sixteenth century; they doubtless served as ornaments upon the costumes of the grand princes. Besides these some thirty-four silver coins were found, also a highly original bronze vessel in the shape of a fabulous quadruped. The metal value of all the antiquities is estimated at 1000 roubles (150*l.*). The Archæological Commission has taken possession of them.

#### OUR ASTRONOMICAL COLUMN

THE OBSERVATORY OF HARVARD COLLEGE, U.S.—We have received the Annual Report presented to the Visiting Committee of this Observatory by Prof. Pickering on December 6. The year has been one of unusual activity in the establishment, funds which had been liberally forthcoming from its friends having enabled both the equatorial and meridian circle to be regularly employed, and further having allowed of many researches of importance being conducted with the smaller instruments. With the large equatorial Prof. Pickering claims that he has succeeded in making a more extensive series of observations for position of the satellites of Mars at the last opposition than was obtained elsewhere, and states that Deimos was last seen at Harvard Observatory; the number of observed angles of position of Deimos was 825, and of Phobos 278, and that of observed distances 245. In addition to measures for position photometric observations were made, which appear to show that if the satellites possess a capacity for reflecting sunlight equal to that of the planet, Deimos may have a diameter of about six and Phobos of seven miles. It was noted at various observatories that Deimos appeared somewhat brighter in 1879 than at the preceding opposition in 1877, and in both years Prof. Pickering states it seems to have been brighter measured photometrically, and to have been seen more easily when it followed than when it preceded Mars.

Photometrical determinations of the times of eclipses of Jupiter's satellites, commenced in the summer of 1878, have been continued during the year, and it is considered with reasonable hope that these phenomena may be more accurately observed than hitherto by this method. Observations of planetary nebulae described in the previous Report have been nearly completed.

With regard to spectroscopic observations, Prof. Pickering says the most remarkable discovery is that the spectrum of No. 17681 of Oeltzen's Catalogue, the place of which for 1880 is in R.A. 18h. 1m. 17s., N.P.D. 111° 1', possesses a peculiar character. "The light of this star is principally concentrated in two points of the spectrum, one in the blue, the other in the yellow, a little more refrangible than the D line. A faint continuous spectrum is also seen."